owing to classification, "a point kept distinctly in view in arranging the Exhibition of Scientific Apparatus." The article then proceeds :—

"The problem of classification has been triumphantly solved. . . . . Success is absolute and complete.

"The institution of conferences during the Exhibition can hardly be regarded as other than a most valuable innovation, and precisely what was wanted—not to popularise the Exhibition, but to give it that life and movement without which the best institutions are apt to become stagnant, and be passed heedlessly by in an age of hurry and bustle. . . . There is no slackness at South Kensington, and conferences form an interesting and important part of the programme of the Scientific Exhibition which it is rumoured will probably prove the nucleus of a Scientific Museum analogous to the Conservatoire des Arts et Métiers at Paris. It would certainly be shortsighted policy to allow the splendid collection of objects now brought together for the first time in the world's history to be redistributed—scattered all over Europe, in odds and ends which teach little or nothing apart, but are of inestimable value when together. The want of a permanent national institution devoted to science can now be supplied in the least costly and most efficacious manner, that is to say, the vital part composed of the scientists and their instruments. As for the showy part—the outward and visible sign—the Central Hall of Science, it will come in time. If Albert Hall, after having failed as a music-hall, fails also as a circus and as a skating-rink, the country may one day be able to buy it up cheap, and convert it to a legitimate use."

The *British Journal of Photography* says :—

"There is now open in the Exhibition Buildings, South Kensington, London, a large, varied, and most valuable collection of scientific apparatus and appliances. Its intrinsic value is great, its historical value much greater, but in its educational importance is to be found the chief value of this unique collection."

The *Gardeners' Chronicle* speaks thus :—

"The splendid collections of Scientific Apparatus now on view at South Kensington may not have any great interest or attraction for the general public, for whose taste the display is too technical and unintelligible. To the more thoughtful visitor, and especially to the student, the collection is rich in interest and suggestiveness. . . . The whole thing has been organised and got together so quietly that even among scientific men little or nothing was known about the proceedings till the last moment, and the extent and value of the collections has come upon them as a surprise."

Public opinion thus far, it will be seen, has nothing but admiration for the Loan Collection. The *Athenæum* is on the other side. We give its article without note or comment, as the collection can hold its own.

"The galleries containing the Loan Collection of Scientific Instruments are at length open to the public. Apparently no expenditure has been considered too great by those who have been engaged in bringing together in the course of a few weeks from every part of Europe all the relics of science that could be begged or borrowed from public institutions or private collections. Gentlemen have been sent on special missions from South Kensington, and their movements have been duly chronicled in Reuter's telegrams amongst the most important news from Italy and Germany. Where these gentlemen could not find time to go, ambassadors and their attachés have been pressed into the service of collecting. Special railway trains have, we are informed by our contemporary, NATURE, been built for the transit of instruments, and the result is a collection of brass, glass, and old iron relics, which has driven the daily press wild with enthusiasm.

"According to the ordinary law of chances, a certain proportion of these instruments will be returned to the places whence they came all the worse for their journey across Europe, and we feel inclined to inquire whether it is certain that the worker in science will be the wiser for having seen them. The old and celebrated instruments have been repeatedly described and figured, and the new instruments, if useful, a man engaged in scientific research knows better than he knows the way to South Kensington. As to the curiosity-loving public, it will surely not be pretended that it is worth while to form such a collection for its amusement, but if it be the duty of government to gratify the craving of idlers, let us by all means at once appoint a Barnum to be Minister of Science; he will know how to make such exhibitions as this, and the School of Art needlework, a commercial success. But, no doubt, real instruction is intended, and if so, let us stop and ask whether the present is the best and cheapest plan of obtaining our object. The 'general public,' so far as can be judged from the experience of the first few days, regards the whole affair with indifference.

"In order to afford the means for studying the history of a science there is needed a continuous series of objects that will illustrate the development of thought step by step; such a collection cannot be brought together in a few weeks. It needs the patient labour and study of a lifetime devoted to it; but in this exhibition, as in collections made by the *nouveaux riches*, the extremely old and extremely curious have been brought side by side with the complicated results of modern workmanship; and we find none of the connecting links, to gather which requires a man well versed in the history of his subject, and the labour of a lifetime. . . . In fact, the collection required the control of a hand familiar with the history of astronomy. Objects that would have illustrated the development of the telescope during the seventeenth and eighteenth centuries should have been sought after more diligently than relics connected with great and popular names with which every one is familiar.

"The general 'Handbook to the Exhibition,' which has been published, is a remarkably good shilling's-worth of information, but, as might be expected, it contains treatises of very different merit. After some general considerations on instruments by Prof. Clerk Maxwell, which will possibly be above the heads of most of his readers, follow some interesting though rather general disquisitions on various subjects, which have evidently in most cases been written without reference to the instruments brought together. The names of Prof. Clerk Maxwell, Prof. Smith, Prof. Clifford, Mr. Spottiswoode, Prof. Tait, and others, will be a sufficient guarantee of the trustworthiness of the information given. The article on Astronomy is not equal to the others, and considering the opportunity that the author had of illustrating the history of his subject, it is particularly poor and superficial. The 'Handbook' in general will well repay more than a casual perusal."

We did not state that "special railway trains" had been built for the purpose referred to above.

NOTES

THE *Challenger* is expected home daily, and arrangements are being made for the ship being welcomed on its arrival at Sheerness by the Royal Society and the foreign men of science now in this country.

THE visitation of the Royal Observatory is fixed for Saturday, June 3.

THE Anniversary Meeting of the Royal Geographical Society was held on Monday. The total number of ordinary Fellows on the list at the end of April was 3,125. Sir H. Rawlinson, the President, presented the Founder's Medal to Lieut. Cameron, and the Patron's Medal to Mr. Lowther for Mr. J. Forrest, the Australian explorer. The annual geographical medals offered by the Society to the chief public schools were presented to the following successful competitors, viz.:—In physical geography, gold medal, John Wilkie, Liverpool College; bronze medal, Walter New, Dulwich College; and in political geography, gold medal, Thomas Knox, Haileybury College; bronze medal, W. M. H. Milner, Marlborough College. The President then delivered the annual address on the progress of geography, in the course of which he announced that he had received a communication from the Chancellor of the Exchequer that morning, that, considering the very great importance of the discoveries of Lieut. Cameron, her Majesty's Government had decided to share the expenses of the Expedition. A sum of 3,000*l.* will be handed over to the Royal Geographical Society on that account.

THERE is at present being erected in the Paris Observatory Gardens a house for the Bishofsheim transit instrument, which has been admirably constructed by Eichens. The house possesses many peculiarities, and was designed by M. Leverrier for the better insuring of equality of temperature. The roof can be removed on horizontal rails, and the walls are so perforated that there is a continual circulation of air in all parts. The frame of the house may be said to be pneumatic, as it has been constructed on a system analogous to that of the bones of birds. It is sure to work admirably.

THE Woodwardian Museum at Cambridge has this week received an important accession in the rich collection of fossils presented by the veteran geologist, Mr. J. W. Walton, of Bath. In many respects, this collection, little known and studied by palæontologists, corresponds for the Southern Jurassic rocks to that of Mr. Leckenby, already at Cambridge, for the contemporaneous Yorkshire beds; but in addition, the general series of fossils is very interesting. Mr. Walton's Cambrian fossils constitute one of the finest existing assemblages from these rocks. Mr. Keeping, who has superintended the transfer to Cambridge, estimates the number of specimens at a hundred thousand; the entire weight is nearly two tons and a half. Thus the opportunities for palæontological investigation, at Cambridge already very great, are largely increased.

BIOLOGICAL students at Cambridge, and many others, will regret the approaching departure of Dr. Martin, Fellow and Lecturer of Christ's College, who has accepted the Professorship of Natural History in the University of Baltimore. Dr. Martin has attained the highest honours both at London and at Cambridge in a wide range of subjects. He has been largely associated with biological instruction at University College, London, and at South Kensington, while his connection with Dr. Michael Foster in the development of biology at Cambridge has been of great value. His co-operation with Prof. Huxley in the production of the very successful "Course of Practical Instruction in Elementary Biology," is well known. Some compensation for Dr. Martin's loss at Cambridge may be found in the thought that biology in the United States will gain by the presence of a man so well versed in European methods, and especially in the systems of instruction worked out by Prof. Huxley, Dr. Foster, and others in England.

FROM the daily Weather Maps issued from Hamburg by the German Seewarte, which embrace the whole of Europe, except the extreme south and the extreme north, we observe a very remarkable distribution of the atmospheric pressure for some weeks back. Barometers have been constantly low in southern or eastern regions, and high in the west and north, resulting in a persistent prevalence of northerly and easterly winds over nearly the whole of the continent. The maps suggest that this state of things has probably extended far to north-westwards, and in accordance with this supposition letters from Iceland inform us that the Greenland and Spitzbergen ice descended, in the beginning of this month, on the north coast of that island to a very serious extent, filling the sea as far as the eye could reach. In this connection, the observations made by the Arctic Expedition will have a peculiar meteorological value.

M. HOUZEAU has been appointed Director of the Royal Observatory of Brussels.

THE results of the daily photographs taken by M. Janssen at his observatory at Montmartre are rather interesting. In February a number of spots were visible and photographed; this number was gradually reduced to two groups, each consisting of two large spots, which were visible on March 13. By March 18 only two spots were visible, the two others having disappeared owing to the rotation of the sun. The two last disappeared by March 25, and from that time up to May 20 not a single spot was recorded, the solar disc appearing quite homogeneous. Such a phenomenon is very rare, indeed, although we are nearing the minimum. The photographs taken by Janssen are 20 centimetres diameter on a collodion film, when the sky is clear. Under unfavourable circumstances, the diameter is reduced to 10 centimetres. M. Janssen takes his photographs irrespective of the presence of clouds. He uses his celebrated *revolver*, and operates before ten o'clock in the morning. He is using not only the instruments taken to Japan for the last Transit, but the very canvas, with the canvas rotating domes. No doubt the Minister for Public Instruction will give him very shortly the means of building a permanent observatory, which is to be styled the Paris Physical Observatory. M. Janssen is also asking the means to build a large refractor worth 200,000 francs.

THE *Nord-Deutsche Allgemeine Zeitung* states that the German Imperial Government proposes to establish a Meteorological Institution, the meteorological department being up to the present moment merely a part of the statistical office.

AT a recent meeting of the Birmingham Natural History Society, the meteorite which recently fell in Shropshire, and to which we referred at the time, was exhibited and described. The following resolution was very properly passed unanimously by the Society:—"That in the opinion of this meeting the meteorite exhibited should become the property of the nation, in order that it may be submitted to the fullest scientific investigation at the hands of the most competent authorities." The above resolution was passed in consequence of an application made to the finder of the meteorite on behalf of the Duke of Cleveland.

L'Explorateur of May 18 contains an account of the principal indigenous tribes of Eastern Siberia, taken from a recently-published work of M. Octave Sachot, "La Sibérie Orientale et l'Amérique Russe. Le Pôle Nord et ses Habitants." The information contained in the work seems to be mainly derived from the voluminous notes of an American engineer who sojourned for three years in the region in question.

M. TH. MAUREAU, an assistant in the Meteorological Service at the Paris Observatory, has been promoted, at the request of M. Leverrier, to the position of "Physicien-adjoiut," by M. Waddington. Although a young man, he has rendered important service in the previsional department of practical meteorology.

MR. A. SUTHERLAND, writing from Invergordon, Ross-shire, May 13, states:—For the last fortnight almost daily iridescent halos, of more or less completeness, have been noticed round the sun, towards evening. Those on the 5th and 10th were very brilliant. The former consisted of a rainbow-coloured circle reaching almost from the zenith to the horizon, and continued for two hours. The halo visible on the 10th was an almost complete example of the phenomenon, consisting of, when observed at 6.30 P.M., two iridescent circles (22° and 46°) with tangent arc and mock-suns. The inner circle of 22° showed more especially the red rays on its concavity, except at the parhelia, where it was brightly iridescent. A pale light stretched through the sun from one parhelion to the other, and somewhat beyond these. The tangent arc of this inner circle was also very bright and well defined. The larger circle was complete except where the hills on the horizon hid a small portion. The tangent arc was not observed above it, the sky being clear where it would be projected. The day had been very warm, but towards evening a cold north-easterly wind blew, and the part of the sky where the sun was had become somewhat misty before the appearance of the halo. Lately the north-easter has plentifully furnished the conditions for the "icy cloud" which makes these appearances possible.

THE *Pandora* is expected to leave Portsmouth to-day for her Arctic cruise.

PROF. O. C. MARSH, in a short paper on some characters of the genus *Coryphodon*, Owen, figures the skull of the American *Bathmodon* of Cope, which he shows to be undistinguishable from *Coryphodon*. This oldest known representative of the ungulate animals, found in the London clay of England, the *Argile plastique* of France, and the lower Eocene of Utah, Wyoming, and New Mexico, possessed, besides the full complement of teeth (44), five digits on each limb, and a third trochanter to the femur. The cerebellum was peculiarly small, and the cerebrum very large in proportion.

THE Prefect of the Seine has appointed a Commission composed of M. Alphaud, the chief engineer of the city, two other engineers, and the head of the Public Gardens to study some of the public works of London, such as the Metropolitan Railway, the gardening of the public parks, the sewage and water system, &c. The French Minister of Public Works will be represented in that Commission by M. de Villiers, chief engineer of Ponts-et-Chausées.

A COMMISSION has been appointed by the Prefect of the Seine to construct a number of primary clocks in Paris for the purpose of distributing the time by means of electricity. Up to the present time clockmakers have been obliged to make personal application at the Observatory to compare their chronometer with the standard chronometer, which is regulated by the observation of the celestial bodies once a week.

THE numbers of the *American Naturalist* for February and March contain, among other papers, one by Mr. A. Agassiz on Haeckel's Gastræal theory, one by Mr. H. D. Minot on the Summer Birds of the White Mountain Region, one by Dr. H. A. Hagan on the Development of Museums, one by Dr. J. G. Cooper on Californian Garden-Birds. There is also a reply by Dr. E. Coues to Mr. J. A. Allen's "Availability of certain Bartranian names in Ornithology." Dr. H. A. Hagan describes the Goshawk from among the Game Falcons of New England. Mr. Scudder describes the nature of the chirp of the Mole Cricket. Mr. Abbot writes on the indications of the antiquity of the Indians of North America, derived from a study of their relics.

WE observe from the recent numbers of the *Bulletin International* of the Paris Observatory that the annual reports for 1875 are being received, and in considerable numbers, from the presidents of the departmental meteorological commissions, as was earnestly requested some time ago by M. Leverrier, in order that the *Atlas Météorologique* for 1875, may appear with as little delay as possible. In proof of the activity and earnestness manifested by many of the departments, it may be stated that from the department of Bouches du Rhône tables of observations from thirty-one stations have been received—a number far from being too large if the meteorology of this part of France is to be prosecuted at all successfully with a view to its practical applications.

IN the same journal, of May 5, appears an interesting account by M. Piche, Secretary of the Meteorological Commission of the Basses-Pyrénées, of a sirocco which occurred in that department on September 1, 1874. On that occasion the shade-temperature near St. Jean-de-Luz rose from 78°·8 at 8 A.M. successively to 89°·6, 93°·2, 96°·8, and 101°·3. At Biarritz the temperature also rose to 101°·3, and the difference between the dry and wet bulbs at 4 P.M. amounted to 20°·7. The observations made at the nine meteorological stations of the department at the time, are given, but the number of stations is evidently too few to furnish the materials required for the investigation of this remarkable sirocco. An interesting point, however, is this—the almost unprecedented heat and drought at Biarritz occurred during a rapid and short-continued fall of the barometer, the heat and drought being at the maximum a little before the barometer fell to the lowest point.

WE have received *Osservazioni Meteorologiche*, anno v., No. 14, published under the direction of the well-known meteorologists, P. F. Denza and P. Maggi, by the Alpine Club of Italy. This number gives a full and detailed statement of the meteorological means and extremes during the second decade of April, 1876, at fifty-one stations situated on or in the immediate neighbourhood of the Alps and Apennines, the stations being at heights varying from 87 to 8,360 feet above the sea. The publication worthily occupies a well-marked sphere of operation, and its appearance thrice a month offers great facilities for the study of the meteorological changes in the course of the year along the slopes of these mountain ranges. It would much enhance the usefulness of the results if the barometric and thermometric means for 9 A.M. and 3 P.M. were given separately.

IN the *Fenland and Eastern Counties Meteorological Circular and Weather Report* for May there appear, in addition to the usual matter, the first of a series of papers by the Rev. W. Clement Ley, on wind laws, and a second notice of Mr. Buchan and Dr. Mitchell's paper on the weather and mortality of London, in which the author, Dr. J. M. Wilson, makes some interesting comparisons as regards a few of the most important diseases between the results obtained for London and those for Wisbeach.

AT a recent meeting of the Manchester Field Naturalists' and Archæologists' Society, Mr. Faraday gave an account of a plantation of the *Eucalyptus globulus*, at Hyères, in the department of Var, in the south of France. Three years ago M. Cortambert planted 2,000 seedlings a few inches high over one hectare of land. The trees are now about thirty feet high, the stems having a circumference of about fourteen inches at three feet from the ground. It has of course been necessary to thin the plantation. A branch in flower was recently laid on the table at a meeting of the French Central Society of Horticulture. The wood of the Eucalyptus is extensively used in Algeria for carriage building. Plantations of this tree are becoming numerous in the south of France.

THE full complement of sea-water required for the filling and successful maintenance of the marine tanks at the Westminster Aquarium—over 500,000 gallons—has been delivered, and the importation of marine specimens will be rapidly proceeded with. Many interesting examples of ocean life are already on view in the smaller tanks stationed in the Eastern Annexe.

THE additions to the Zoological Society's Gardens during the last week include a White-thighed Colobus (*Colobus bicolor*), from W. Africa, presented by Mr. A. J. Keason; a White-backed Trumpeter (*Psophia leucoptera*), from S. America, presented by Mr. H. S. Marks, A.R.A.; two Javan Fish Owls (*Ketupa javanica*), received in exchange; a Thar Goat (*Capra jemlaica*) born in the Gardens, the mother belonging to the collection of H.R.H. the Prince of Wales; a Falkland Island Thrush (*Turdus falklandicus*) from Chili, deposited.